

Tissues impregnated with insect repellants

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Abstract of GB1092550

An impregnated tissue, for wiping parts of the human body in order to apply an insect repellent thereto, is impregnated with the insect repellent at a concentration of 3-5 mg./sq. cm. The tissue is defined as a support for the insect repellent comprising a slightly flexible fibrous material which is inert to the repellent but is an absorbent for it and which does not cause any harm to the body. Preferred tissues are made of cotton or of paper. Suitable insect repellents include N,N-diethyl-m-toluamide, 2-ethyl-1,3-hexanediol, dimethyl or dibutyl phthalate, piperonyl butoxide, allethrin, dimethyl carbamate and the oils of citronella, cedarwood, eucalyptus, pennyroyal, bergamot, cassia, cloves, wintergreen and lavender. The tissue may additionally impregnated with other substances such as water, ethanol, isopropanol, perfumes and perfume oils. In examples, the tissue is impregnated with (1) N,N-diethyl-m-toluamide, ethanol or isopropanol, water and lavender oil, (2) dimethyl phthalate, 2-ethyl-1,3-hexanediol and piperonyl butoxide or (3) dimethyl phthalate, lavender oil and citronella oil. The tissues may be wrapped or put in a box, in order to provide a package suitable for carrying in the pocket or handbag, and in order to prevent evaporation of the substances with which they have been impregnated.

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PATENT SPECIFICATION

NO DRAWINGS

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COMPLETE SPECIFICATION

Tissues impregnated with Insect Repellants

We, ABIC LIMITED, formerly ABIC CHEMICAL LABORATORIES, LIMITED, an Israeli Company of 5, Hayozmastreet, Ramat Gan, Israel and YOEL BEN-TOVIM, an Israeli citizen of 40 Tvuoth Haarez-street, Tel Aviv, Israel, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to tissues impregnated with insect repellents.

In areas where insects are present in the air, it is desired to protect exposed parts of the body, e.g. the face and the limbs, against the attack of such insects.

Insect repellents have been available as sprays, creams, ointments and lotions. However, these methods of application are not always satisfactory: sprays may damage the eyes and the mucous membrane and they are uneconomical because they can hit clothed parts of the body; creams and ointments usually include fatty substances which can damage clothing; and lotions are inconvenient especially for carrying around.

According to this invention, there is provided a tissue (as hereinafter defined) impregnated with an insect repellent at a concentration of 3-5 mg/cm².

"A tissue", as the term is used herein, means a support for the insect repellent comprising a slightly flexible fibrous material which is inert to the repellent but is an absorbent for it and which does not cause any harm to the body. Preferred tissues are made of cotton or of paper.

The size of the tissue is not critical; a

suitable size is 10×6 cm. and about 0.5-0.75 mm. thick.

The content of insect repellent depends mainly on the nature of the insect repellent utilised, its activity and its degree of volatility.

Appropriate insect repellents are those which are easily absorbed by the tissue but do not react therewith, which are non-toxic and which do not cause any irritation to the skin. Moreover, the insect repellent should be volatile to a certain extent. Mixtures of individually suitable repellents may be used. Suitable insect repellents include N,N-diethyl-m-toluamide, 2-ethyl-1,3-hexanediol, dimethyl-phthalate, piperonyl butoxide, allethrin, dimethyl carbamate, dibutyl-phthalate, oils of: citronella, cedarwood, eucalyptus, pennyroyal, bergamot, cassia, cloves, winter-green and lavender.

The tissue may additionally be impregnated with other substances which should be absorbable by the tissue, non-toxic, incapable of causing any irritation to the skin and compatible with the insect repellent used. Suitable additional substances are, for example, water, alcohols having a carbon atom content of 1-4, in particular ethanol and isopropanol, perfumes and perfume oils.

The insect repellent may be applied to the tissue per se or in a composition, e.g. as solution or emulsion.

The preparation of the impregnated tissues according to the present invention is simple. Thus, for example, a suitably sized tissue is dipped into a solution containing the insect repellent substance and left therein for a short time (about 5-10 seconds). Another way of preparation is to

put some tissues in a suitable box and to cover them therein with an adequate volume of said solution. After the tissues have been impregnated, they have to be wrapped hermetically so that the substances with which they are impregnated should not be able to evaporate.

The impregnated tissues are safe and hygienic in use. They are cheap, light and easily carried in pockets and in handbags; they may be applied easily and safely to the vulnerable site only. When the tissue is to be used, the wrapper is removed or the box opened and the tissue is then gently wiped on those parts of the body which should be protected. The insect repellent substance is thus applied to said parts. The tissue is discarded after being used.

The invention will be illustrated in non-limitative manner by the following Examples of compositions with which a tissue of about 10×6 cm. and a thickness of about 0.5-0.75 mm. may be impregnated at a concentration of 1 ml. of composition.

25	<i>Example 1</i>	
	N,N-Diethyl-m-toluamide	10 g
	Ethanol	20 g
	Water	20 g
	Lavender Oil	1 g
30	<i>Example 2</i>	
	N,N-Diethyl-m-toluamide	10 g
	Isopropanol	10 g
	Water	20 g
	Lavender Oil	1 g

	<i>Example 3</i>	35
	Dimethyl-phthalate	60 g
	2-Ethyl-1,3-hexanediol	20 g
	Piperonyl butoxide	20 g

	<i>Example 4</i>	40
	Dimethyl-phthalate	60 ml
	Lavender Oil	10 ml
	Citronella Oil	10 ml

WHAT WE CLAIM IS:—

1. A tissue (as herein defined) impregnated with an insect repellent at a concentration of 3-5 mg/cm². 45

2. A tissue as claimed in Claim 1, which is made of either cotton or paper.

3. A tissue as claimed in either of the preceding Claims, additionally impregnated with an alcohol of up to 4 carbon atom content, a perfume or perfume oil, or water. 50

4. A tissue as claimed in any of the preceding Claims, in which the insect repellent is N,N-diethyl-m-toluamide. 55

5. A tissue as claimed in claim 1, impregnated with an insect repellent having the composition of any of the Examples herein.

6. A tissue as claimed in claim 1, and 60 substantially as described herein.

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